

Atlantic Richfield Company

307 East Park Street
Suite 400
Anaconda, Montana 59711
Phone: (406) 563-5211
Fax: (406) 563-8269

March 28, 2002

Arthur G. Gravenstein
Staff Engineer
Bureau of Corrective Actions -- Remediation Branch
Nevada Division of Environmental Protection
333 W. Nye Lane
Carson City, Nevada 89701

Subject: Scope of Work for Closure of the Yerington Mine Site, Lyon County, Nevada

Dear Art:

Atlantic Richfield Company has prepared a final version of the Scope of Work (SOW) for closure of the Yerington Mine Site. The attached document incorporates comments provided by NDEP, EPA and BLM in a letter dated March 7, 2002. We have acknowledged each comment individually, and have made the appropriate modifications to the SOW. A set of responses to each comment is included as an attachment to the SOW. The preliminary schedule for Work Plan development has been retained as an attachment.

If you have any questions regarding the Scope of Work (SOW) for the Yerington Mine site, please call me at 1-406-563-5211 ext. 430.

Sincerely,

Dave McCarthy
Project Manager

cc: Jennifer Carr (NDEP)
 Doug Zimmerman (NDEP)
 Bonnie Arthur, SFD-8-1, USEPA Region 9
 Brad Shipley (BLM)
 Tad Williams, Walker River Paiute Tribe
 Elwood Emm, Yerington Paiute Tribe
 Robin Bullock, Atlantic Richfield Company

TABLE OF CONTENTS

Section		Page
SECTION 1.0	INTRODUCTION.....	1
1.1	Previous Site Investigations and Interim Closure Activities.....	1
1.2	Closure Objectives.....	2
1.3	Site Location and Background.....	3
1.4	Work Plans, Data Summary Reports and Closure Plans.....	3
1.5	Closure and Reclamation.....	4
SECTION 2.0	SITE INVESTIGATION APPROACH.....	5
2.1	Conceptual Site Model.....	7
2.2	Fugitive Dust.....	7
2.3	Cover Materials Characterization.....	8
2.4	Stormwater Management	9
2.5	Site Water Balance	9
2.6	Groundwater Conditions	9
2.7	Waste Rock Area (South of Pit).....	11
2.8	Yerington Pit and Pit Lake.....	11
2.9	Waste Rock Area (North of Pit).....	11
2.10	Mill/Process Area and Precipitation Plant.....	12
2.11	Oxide Tailings Area.....	13
2.12	Sulfide Tailings Area.....	13
2.13	Arimetco Leach Pads and Process Components	14
2.14	Evaporation Ponds.....	14
2.15	Wabuska Drain Evaluation	14
2.16	Community Relations Plan.....	15
SECTION 3.0	SCHEDULE OF SITE INVESTIGATION ACTIVITIES	16

SECTION 1.0

INTRODUCTION

Atlantic Richfield Company has prepared this Closure Scope of Work (SOW) to close the Yerington Mine site. Site investigations presented in this SOW will provide the technical foundation for the development of a Final Permanent Closure Plan (FPCP) that will meet the closure objectives listed below. Site investigations (i.e., short-term actions) requested by the U.S. Environmental Protection Agency and the U.S. Bureau of Land Management have been incorporated into the applicable sections of this SOW.

The proposed site investigations will collect the data necessary to develop and evaluate closure alternatives. Site investigations and closure alternatives will be conducted and evaluated in the context of human health and ecological risk. Data collection activities will be tailored to provide information relevant to the development, evaluation and implementation of closure alternatives. Closure alternatives will be screened against the appropriate evaluation criteria.

1.1 Previous Site Investigations and Interim Closure Activities

Atlantic Richfield Company has previously taken steps to improve site conditions, protect human health and the environment and, most recently, to attempt to reach final site closure. These steps date back to 1985 and have been conducted under an Administrative Order by the Nevada Division of Environmental Protection – Bureau of Corrective Actions (NDEP), and are listed below:

- Installed and operated pumpback system to manage shallow groundwater from 1985 to the present;
- Implemented pumpback system improvements in 1998, 1999 and 2001 including the installation of six new pumpback wells, re-compaction of the evaporation pond in 1998 and the relining of two evaporation pond cells with high-density polyethylene liners;
- Monitoring of groundwater quality and groundwater elevations in approximately 23 wells in the area from 1985 to the present;
- Ongoing financial and technical support for NDEP site management activities since Arimetco abandoned operations at the site;

- Submittal of annual monitoring and operation reports;
- Submittal of a Shallow Groundwater Data Evaluation Report in 2000;
- Conducted hydropunch groundwater monitoring with cooperation by the U.S. Bureau of Land Management (BLM), NDEP, Lyon County and others in 1999;
- Provided financial support to NDEP to cap areas of red material disturbed by Arimetco that were observed as dust concerns on two different occasions; and
- Agreed to conduct the following site investigation activities (short-term actions) requested in 2001 by EPA and BLM:
 - Quarterly monitoring of specific wells;
 - Hydropunch sampling;
 - Domestic well sampling;
 - Evaluation of Wabuska Drain; and
 - Evaluation of EPA air pathway data and installation of a meteorological station.

1.2 Closure Objectives

Closure objectives at the Yerington Mine site are stated as follows:

- Containment and management of existing and potential future impacts to groundwater;
- Assessment and, if required, containment of fugitive dust;
- Address physical and chemical stability of all surface mine materials;
- Demonstration that mine closure units and affected off-site areas following closure and reclamation activities will not adversely affect human health or the environment; and
- Establishment of a compatible post-closure land use and related monitoring and maintenance plan.

The collection of the data specified within this SOW will allow for the development of a comprehensive FPCP that meets these closure objectives. The site conceptual model and Work Plans will incorporate the processes suggested by NDEP, BLM and EPA to achieve these closure objectives. Ecological and human health risk, including exposure pathways and receptors, and post-closure land use will be considered during site conceptual model development and evaluated in the FPCP.

1.3 Site Location and Background

The Yerington Mine site is located approximately one mile west of the town of Yerington in Lyon County, Nevada (Figure 1). Beneficiation operations were conducted between 1953 and 1978 for oxide and sulfide copper ores extracted from the open-pit mine in the southern portion of the mine site. Waste rock and tailings areas exist to the north of the open pit. Waste rock areas exist to the south and north of the open pit. Evaporation ponds were also constructed at the site.

In 1989, Arimetco International expanded leaching operations in the southern, central and western portions of the site, which included the construction and operation of an electrowinning plant located near the mill area. Leach pads and solution ponds were also constructed in the oxide tailings areas and cover all but the northern end of the former unlined evaporation ponds.

1.4 Work Plans, Data Summary Reports and Closure Plans

Atlantic Richfield Company will develop and implement Work Plans to conduct site investigations at the Yerington Mine site for each site closure issue and mine closure unit identified in Tables 1 and 2, respectively. The distribution, review and approval process is anticipated to follow the process under development within the Memorandum of Understanding between the regulatory agencies. One or more Work Plans may be combined into a single Work Plan, as appropriate. All site investigations will be summarized in Data Summary Reports, which will provide the basis for a site-wide FPCP to be developed and submitted for approval prior to implementation. Prior to conducting site investigations, a Health and Safety Plan will be submitted for review and approval.

The FPCP will provide the basis for implementation of closure activities at the Yerington Mine site. The FPCP will address all surface units (e.g., evaporation ponds, leach pad, tailings and waste rock areas) and general site conditions (e.g., groundwater and air quality) including affected off-site areas. The FPCP will include site location and background information, a description of each mine closure unit, characterization data, the proposed method(s) necessary to achieve physical and chemical stability, and an implementation schedule for final closure activities. As necessary, treatability studies will be performed to support site closure. An evaluation of the potential risk to human health and the

environment will be conducted within the FPCP. All proposed closure alternatives will be screened against the following criteria within the FPCP:

- Economic (cost);
- Long-term effectiveness and performance;
- Cost-effective reduction of toxicity, mobility and volume of constituents of concern;
- Overall protection of human health and the environment;
- Implementability;
- Short term impacts;
- Public acceptance;
- State acceptance; and
- Risk-based evaluation.

1.5 Closure and Reclamation

The intent of closure and reclamation at the site is to meet the objectives listed in Section 1.2. Appropriate closure and reclamation activities will be developed upon the evaluation of data collected pursuant to this Scope of Work. The data developed under this SOW, combined with the existing data, will be critical in the development, evaluation and implementation of closure and reclamation activities.

SECTION 2.0

SITE INVESTIGATION APPROACH

This section describes the approach to investigating the general site conditions and specific facilities at the Yerington Mine site. Proposed investigation activities and the rationale for the activities are provided in Tables 1 and 2. An evaluation of existing data will be conducted, and summarized in a Work Plan along with the details for the specific data collection activities. Collection of new data in support of mine closure will be implemented only after all pertinent information has been compiled and evaluated. Although not a site investigation activity, development of a Community Relations Plan is also included in Table 1 and described in this section.

Work Plan implementation and the results of site-specific and general site investigation activities will provide the technical basis for the FPCP. Physical and geochemical characteristics of each mine closure unit, and its hydrogeologic setting, will be evaluated in the context of the site closure objectives described above. If these investigations identify surface materials that have the potential to degrade waters of the State, or pose a risk to human health or the environment, then appropriate additional site characterization and/or mitigation or closure measures will be conducted to evaluate air pathways, surface water pathways and groundwater pathways. Ecological and human health risk will be assessed for identified sources, pathways and receptors. If a mine closure unit is shown to have no potential to degrade groundwater, or does not pose a threat to human health or the environment, no further investigations will be conducted.

Site investigation activities for mine closure units will be based upon the unit's type, operational history, material characteristics and/or hydrogeologic setting. The following site closure issues and mine closure units for the data review and/or site investigation process have been identified:

Table 1. Proposed Site Investigations at the Yerington Mine: Site Closure Issues

Site Closure Issue	Investigation Activities	Rationale for Investigation
Conceptual Site Model	Data review and discussion of site technical issues: evaluation of exposure pathways and potential receptors: definition of mine closure units.	To provide the basis for future site investigations, data quality objectives, and Work Plan development.
Fugitive Dust	Install Air Monitoring Station(s). Evaluate EPA air pathway data.	Evaluation of particulates and metals resulting from wind-blown dust and collection of baseline/background data.
Cover Materials Characterization	Collect soil samples for analyses: quantify soil volumes.	Suitable soils can be used to cap facilities to support closure and future land use.
Stormwater Management	Evaluate aerial topographic and ortho-photo data.	To aid the development of post-closure stormwater management.
Site Water Balance	Analyze existing meteorologic data (e.g., precipitation, evaporation).	Water balance data will support groundwater management and closure decisions.
Groundwater Conditions	Evaluate existing groundwater data and, if required, conduct hydroponch sampling and design additional monitor wells to collect water elevation and chemical data. Quarterly monitoring of specific wells. Evaluate background data.	Data to be used in the evaluation of hydrogeochemical conditions to support closure activities and improve understanding of constituents of concern in groundwater.
Wabuska Drain	Collection and evaluation of hydrologic and geochemical data.	Data to be used to evaluate water quality and ecological and human health risk.
Community Relations Plan	Establish criteria for Community Relations Plan.	Inform members of Yerington and surrounding communities of mine closure activities.

Table 2. Proposed Site Investigations at the Yerington Mine: Mine Closure Units

Mine Closure Unit	Investigation Activities	Rationale for Investigation
Waste Rock Area (south of pit)	Collect waste rock samples for geochemical and geotechnical analyses.	Data to be used to evaluate borrow source feasibility.
Yerington Pit and Pit Lake	Review existing pit lake hydrologic and geochemical data: review hydrogeologic data of the bedrock and alluvial groundwater flow system filling the pit.	Data to be used to identify data gaps and/or management alternatives.
Waste Rock and Tailings Area (north of pit)	Collect waste rock and tailings material samples for geochemical and geotechnical analyses.	Data to be used to evaluate facility closure options.
Mill Area and Precipitation Plant	Collect soil samples for geochemical analyses. Evaluate structures for closure.	Data to be used to support closure alternatives and evaluation of potentially affected soils.
Oxide Tailings Area	Collect samples for geochemical and geotechnical analyses.	Data to be used to evaluate closure options.
Sulfide Tailings Area	Collect samples for geochemical and geotechnical analyses.	Data to be used to evaluate closure options.
Arimetco Leach Pads and Process Components	Collect leached material (spent ore) samples for geochemical and geotechnical analyses. Evaluate structures for closure.	Data to be used to evaluate closure options.
Evaporation Ponds	Evaluate underlying soils and groundwater conditions.	Assess potential for groundwater impacts and optimization of existing pumpback system.

2.1 Conceptual Site Model

A conceptual site model will be developed that establishes the basis for subsequent Work Plans and site investigations. The conceptual model will further define mine closure units through mapping and field verification. Mine closure units are currently defined in Table 2, which can be modified as site investigations proceed. Identified units can be sub-divided or more units added through this process. The conceptual site model will evaluate migration and exposure pathways for surface water, groundwater and air potentially affected by the mine units, and identify potential on-site and off-site receptors in terms of ecological and human health risk. If site investigations indicate that off-site areas have been affected, then the off-site area will be evaluated by the Work Plan for that unit, including an assessment of possible human health or ecological risk.

The conceptual site model will also establish data quality objectives (DQOs) for the site investigations described in this section, and listed in Tables 1 and 2, to help focus data collection activities to collect appropriate data necessary to meet the stated closure objectives. Conceptual model development will include a review of relevant data and literature, a review of past and recent aerial photographs, and pertinent anecdotal information (e.g., interviews with former employees).

2.2 Fugitive Dust

Fugitive dust from existing surface facilities at the Yerington Mine site has been observed at certain times. An evaluation of existing meteorologic data in the vicinity of the site will be performed and, on the basis of the data review and empirical observations of fugitive dust sources, Atlantic Richfield will install one or more air monitoring stations. A Work Plan for fugitive dust air monitoring will be prepared and submitted for approval.

The air monitoring station(s) will be strategically located to provide an assessment of fugitive dust that exits the site property boundary. Parameters to be monitored and monitoring intervals/schedule will be developed in the Work Plan. Atlantic Richfield Company will evaluate controls for fugitive dust sources based on the air monitoring data. Source control measures will be integrated with facility specific characteristics in support of site closure objectives.

Upon receipt from EPA, Atlantic Richfield Company will evaluate data collected by EPA on site visits conducted on April 25 and June 19, 2001. Based on this review, additional data collection requirements will be determined. In addition, Atlantic Richfield Company proposes to evaluate existing meteorologic data for the site and install one meteorological station. The meteorological station will be strategically located to provide useful meteorological data relevant to the site. Results of this investigation, including meteorological data, will be presented in the Data Summary Report.

2.3 Cover Materials Characterization

An evaluation of potential cover materials from alluvial borrow sources and from existing mine units for use in potential site closure activities will be conducted. Characterization of cover materials will include an inventory of available material type including volume estimates, the collection of representative samples, and laboratory analyses. Geotechnical analyses will include grain size, moisture content, density, compaction characteristics or other physical analyses. Geochemical analyses may include whole rock chemistry and agricultural parameters to assess the ability to support vegetation or other chemical analyses. Sampling locations, analytical parameters and methods will be specified within the Work Plan.

The locations, volume and geotechnical characteristics of suitable cover materials will be presented in a Data Summary Report. This information will be used to support site re-grading and closure designs.

2.4 Stormwater Management

Based on recent site aerial photography and topographic mapping (2-foot contours at a scale of 1 inch = 100 feet), an evaluation of the need to develop re-grading plans for stormwater management activities will be performed. As necessary, within the FPCP, stormwater management activities will be integrated with the closure objective of attaining physical and chemical stability for all mine closure units. Such activities will be supported by run-off calculations and site-specific meteorologic data.

2.5 Site Water Balance

Atlantic Richfield Company will evaluate existing meteorologic data (e.g., precipitation and evaporation) to determine the need to collect additional site-specific data. Existing and new data will be integrated with the cover designs and re-grading plans within the FPCP to manage stormwater run-off at the site. A comprehensive water balance database will also support management decisions for facility and overall site closure, including the optimization of groundwater pumping from the shallow aquifer. The meteorologic data will be compiled the FPCP, and will aid in the development of closure options.

2.6 Groundwater Conditions

An evaluation of current groundwater management operations and aquifer conditions in the context of site water balance information will be conducted including an assessment of the effectiveness of the pumpback well system. This review will include the identification of areas at the mine site, located down-gradient of surface features with the potential to impact groundwater, that have little or no groundwater monitoring data. The results of this evaluation will be summarized in a Work Plan that will present the locations and preliminary designs for additional monitor well construction. Piezometers may also be specified within the Work Plan to aid in evaluating groundwater elevations at certain locations. The monitoring schedule and analytical parameters for new and existing wells will also be included within the Work Plan. Separate Work Plans have already been submitted for hydropunch evaluation and trench testing of groundwater conditions associated with the Pumpback Well System. However, other activities may be incorporated into the Work Plan in the future.

As part of site groundwater investigations, Atlantic Richfield Company will conduct quarterly sampling and analysis of specific constituents from groundwater monitor wells located within and down-gradient of the Yerington Mine site during four consecutive quarters. Details such as locations, analytical parameters, etc. will be specified within the Groundwater Conditions Work Plan. The purpose of this investigation is to provide more current groundwater quality data within and around the site, particularly in the shallow aquifer. The investigation will also provide additional data to aid in the evaluation of the effectiveness of the current Pumpback Well System. Data Summary Reports will be prepared pursuant to a yet-to-be selected regulatory mechanism that will provide the analytical results of this one-year investigation.

Additional monitor well installations may be implemented after a detailed review of existing hydrogeologic conditions and groundwater quality data from the existing monitor well network and the area down-gradient of the Pumpback Well System. As requested by EPA and BLM in the July 2001 General Notice Letter, two additional monitor wells are anticipated to be installed as Short-Term actions. One well will monitor groundwater from the area near the intersection of Locust Lane and Luzier Lane. The second well would replace an existing shallow aquifer monitor well, USGS-13, that is currently nested with a monitor well completed in a deeper aquifer.

In addition to the hydrogeologic investigations described above, Atlantic Richfield Company will also re-sample domestic wells from residences previously sampled by EPA at down-gradient locations from the Yerington Mine site. The sampling and analysis protocols, the list of analytical parameters and other details will be specified in the Groundwater Conditions Work Plan. Results of domestic well sampling and analysis activities will be presented in the Data Summary Report.

2.7 Waste Rock Area (South of Pit)

An estimate of the extent of waste rock materials will be conducted using available historical information. Materials characterization may include one or more of the following sequential steps: materials inventory and static testing. Characterization of waste rock materials will follow guidelines approved for the Work Plan for this mine closure unit.

Waste rock materials to be sampled and analyzed will be based on color, degree of oxidation, lithology, secondary mineralization, alteration intensity, and mineralogic characteristics. Representative samples will be collected and analyzed using the appropriate method. The physical and chemical stability of waste rock materials will be determined on the basis of: 1) surface run-off; 2) depth to groundwater; 3) hydrogeology; 4) geochemistry; and 5) water balance calculations or modeling. Additional investigation activities and/or closure measures to eliminate, or minimize, the potential to degrade waters of the State or otherwise pose a risk to human health or the environment would be incorporated in the FPCP.

2.8 Yerington Pit and Pit Lake

The Yerington Pit has penetrated the bedrock groundwater flow system and the alluvial flow systems, and the associated pit lake will be evaluated for potential impacts to groundwater and/or the potential to pose an ecological or human health risk. Specifically, the Nevada Administrative Code NAC 445A.429 states that “Bodies of water which are a result of mine pits penetrating the water table must not create an impoundment which has the potential to degrade the ground waters of the state or has the potential to affect adversely the health of human, terrestrial or avian life.” An evaluation of existing data and the collection of additional data, if necessary, will aid in the development of closure and management alternatives for the pit lake.

2.9 Waste Rock Area (North of Pit)

An estimate of the extent of waste rock materials will be conducted using available historical information. This area includes leached materials and low-grade ore stockpiles. The intent of the materials mapping will be to provide the basis for materials sampling and analysis as the first phase of facility characterization. If a complete delineation of specific material types is not possible, Atlantic Richfield Company will present assumptions as to the extent of material types to NDEP for approval prior to materials characterization. Materials characterization may include one or more of the following sequential steps: materials inventory and static testing.

Characterization of waste rock and tailings materials will be performed per guidelines specified in the Work Plan for this mine closure unit. Waste rock materials to be sampled and analyzed will be based on color, degree of oxidation, lithology, secondary mineralization, alteration intensity, and mineralogic characteristics. Representative samples will then be selected based on the relative proportions of material types and analyzed using the appropriate method. The physical and chemical stability of waste rock and tailings materials will be determined on the basis of: 1) surface run-off; 2) depth to groundwater; 3) hydrogeology; 4) geochemistry; and 5) water balance calculations or modeling. Additional investigation activities and/or closure measures to eliminate, or minimize, the potential to degrade waters of the State or otherwise pose a risk to human health or the environment would be incorporated in the FPCP.

2.10 Mill/Process Area and Precipitation Plant

Soils in the mill/process and precipitation plant areas will be characterized with respect to their potential to pose a risk to human health or the environment. These areas include on-site process buildings, ditches, tanks and vats. Generally, soils will be analyzed for whole rock chemical analyses. The soils characterization program will be used to support the final closure plan for the process areas.

The FPCP will identify buildings or equipment fixtures will be subject to demolition, cover and/or removal and disposal of debris. Beneficiation units that contain materials or significant material residues that may impact groundwater or pose a risk to human health will be inventoried, characterized and evaluated for closure alternatives (e.g., removal, isolation, or mitigation). Units that may have the potential to impact surface runoff may be subjected to additional characterization and/or closure options as necessary to eliminate or minimize potential impacts.

2.11 Oxide Tailings Area

An estimate of the extent of oxide tailings materials will be conducted using available historical information. The intent of the materials mapping will be to provide the basis for materials sampling and analysis as the first phase of facility characterization. Mapping of historic drainage ditches will be included. Materials characterization may include one or more of the following sequential steps: materials inventory and static testing.

Characterization of oxide tailings materials will be performed per guidelines specified in the Work Plan for this mine closure unit. Representative samples will be collected and analyzed using the appropriate method. The physical and chemical stability of oxide tailings materials will be determined on the basis of: 1) surface run-off; 2) depth to groundwater; 3) hydrogeology; 4) geochemistry; and 5) water balance calculations or modeling. Additional investigation activities and/or closure measures to eliminate, or minimize, the potential to degrade waters of the State or otherwise pose a risk to human health or the environment would be incorporated in the FPCP.

2.12 Sulfide Tailings Area

An estimate of the extent of sulfide tailings materials will be conducted using available historical information. The intent of the materials mapping will be to provide the basis for materials sampling and analysis as the first phase of facility characterization. Mapping of historic drainage ditches will be included. Materials characterization may include one or more of the following sequential steps: materials inventory and static testing.

Characterization of sulfide tailings materials will be performed per guidelines specified in the Work Plan for this mine closure unit. Representative samples will be collected and analyzed using the appropriate method. The physical and chemical stability of sulfide tailings materials will be determined on the basis of: 1) surface run-off; 2) depth to groundwater; 3) hydrogeology; 4) geochemistry; and 5) water balance calculations or modeling. Additional investigation activities and/or closure measures to eliminate, or minimize, the potential to degrade waters of the State or otherwise pose a risk to human health or the environment would be incorporated in the FPCP.

2.13 Arimetco Leach Pads and Process Components

As required, the spent ore materials contained within the Arimetco leach pads will be evaluated in a similar fashion as the tailings and waste rock facilities described above. Atlantic Richfield Company will prepare a Work Plan that outlines such characterization steps as the performance of static and kinetic tests, analysis of whole rock geochemistry, and the collection hydraulic parameters of pad materials. Given that these facilities are lined, and should not have significant potential to degrade waters of the State, a limited materials characterization program is anticipated. Process components associated with the leach pads such as ponds, ditches, tanks, the electrowinning facility, etc. will also be investigated. Hydraulic modeling of one or more representative pads may be conducted to demonstrate the long-term water balance for these facilities.

2.14 Evaporation Ponds

The unlined evaporation pond has resulted in mining-related groundwater issues within the Yerington Mine site, and is subject to the AO resulting in the Pumpback Well System. Other lined and unlined ponds, and historic drainage ditches, will be evaluated for potential impacts to human health and the

environment. Representative samples of solids accumulated in the ponds will be analyzed in a similar fashion as performed for the tailings and waste rock areas. Collection of these data will aid in the development of closure options for the ponds.

2.15 Wabuska Drain Evaluation

Contingent upon receiving access from property owners and Work Plan approval, Atlantic Richfield Company will conduct a hydrologic and geochemical assessment of the Wabuska Drain. Up to four monitoring locations will be identified for flow measurements and the collection of surface water samples and soil samples for laboratory analysis. Details such as sample locations, analytical parameters, etc. will be included in the Work Plan for this mine closure unit. Results of this investigation will be presented in a Data Summary Report.

2.16 Community Relations Plan

The YTWG will develop a community relations plan to provide local residents and communities with up-to-date information regarding the results of site characterization activities and closure plans for the Yerington Mine site. This plan will provide for distribution of printed information and conduct of public meetings in Yerington.

SECTION 3.0

SCHEDULE OF SITE INVESTIGATION ACTIVITIES

Atlantic Richfield Company plans to initiate these SOW activities at the Yerington Mine site in 2002. A preliminary schedule of Work Plan development is attached. This preliminary schedule is subject to modification as investigations proceed. EPA and BLM requested in the July 2001 General Notice Letter that certain "Short Term" actions be conducted as soon as possible. These Short Term actions are listed below and are being implemented on an accelerated schedule as specified in Atlantic Richfield's letter response dated February 5, 2002. However, the following Short Term actions have been included in the appropriate sections of this SOW, and are anticipated to be folded within the SOW activities as they get underway:

- Site-wide quarterly groundwater monitoring consisting of the existing groundwater wells on and near the site;
- Installation of at least two monitoring wells in the north and northwest site boundary areas;
- Bi-annual domestic groundwater well sampling of wells previously sampled by EPA;
- Sampling of the Wabuska Drain; and
- Evaluation of EPA air pathway data and installation of a meteorological station.

Yerington Mine Site: Preliminary Work Plan Development Schedule¹

Site Closure Issue / Mine Unit	Investigation Activities	Schedule ¹
Conceptual Site Model	Data review and discussion of site technical issues; evaluation of exposure pathways and potential receptors; definition of mine closure units .	Draft Conceptual Site Model: 45 days
Fugitive Dust	Install Air Monitoring Station(s). Evaluate EPA air pathway data.	Draft Work Plan: 60 days
Cover Materials Characterization	Collect soil samples for analyses; quantify soil volumes.	Draft Work Plan: 120 days
Stormwater Management	Evaluate aerial topographic and ortho-photo data.	No Work Plan: Analysis to be incorporated into the Final Permanent Closure Plan
Site Water Balance	Analyze existing meteorologic data (e.g., precipitation, evaporation).	No Work Plan: Analysis to be incorporated into the Final Permanent Closure Plan
Groundwater Conditions	Evaluate existing groundwater and surface water data and, if required, conduct hydropunch sampling and design additional monitor wells to collect water elevation and chemical data. Quarterly monitoring of specific wells. Evaluate background data.	Draft Work Plan: 90 days
Waste Rock Area (south of pit)	Collect waste rock samples for geochemical and geotechnical analyses.	Draft Work Plan: 90 days
Yerington Pit and Pit Lake	Review existing pit lake hydrologic and geochemical data; review hydrogeologic data of the bedrock and alluvial groundwater flow system filling the pit.	Draft Work Plan: 210 days
Waste Rock and Tailings Area (north of pit)	Collect waste rock and tailings material samples for geochemical and geotechnical analyses.	Draft Work Plan: 90 days
Mill Area and Precipitation Plant	Collect soil samples for geochemical analyses. Evaluate structures for closure.	Draft Work Plan: 90 days
Oxide Tailings Area	Collect samples for geochemical and geotechnical analyses.	Draft Work Plan: 90 days
Sulfide Tailings Area	Collect samples for geochemical and geotechnical analyses.	Draft Work Plan: 90 days
Arimetco Leach Pads and Process Components	Collect leached material (spent ore) samples for geochemical and geotechnical analyses. Evaluate structures for closure.	Draft Work Plan: 90 days
Evaporation Ponds	Evaluate underlying soils and groundwater conditions.	Draft Work Plan: 120 days
Wabuska Drain	Collection and evaluation of hydrologic and geochemical data.	Draft Work Plan: 90 days
Community Relations Plan	Establish criteria for Community Relations Plan.	Draft Community Relations Plan: 45 days

¹Schedule provided in days after final approval of the Scope of Work for the closure of the Yerington Mine Site, Final Work Plans anticipated to be submitted within 45 days of receipt of comments. Some Work Plans may be combined into one Work Plan submittal based upon schedule and similarity of issues.

**RESPONSE TO AGENCY COMMENTS:
FINAL DRAFT SCOPE OF WORK DATED JANUARY 29, 2002
YERINGTON MINE SITE CLOSURE**

Comments on Atlantic Richfield's final draft SOW

General Comment

The final draft SOW addresses many of the regulatory comments on the draft SOW. However, the following comments were not adequately addressed in the final draft. Overall, we see the SOW as the key document to ensure that the project is focused on investigations that will form the basis for risk-based cleanup decisions. The investigation, analysis of alternatives and any subsequent cleanup must be conducted in accordance with the intent of the National Contingency Plan (NCP). The SOW is also a framework for all the different activities at the Site and should be a stand-alone document. Finally, we do not believe that the substance of the sections is dependent upon having the enforcement agreement or order in place. We agree that the SOW will be attached to this agreement or order.

Response to General Comment: Atlantic Richfield attempted to completely address regulatory agency comments to the initial draft Scope of Work. Atlantic Richfield agrees with the need to conduct investigations that evaluate the risk to human health and the environment that may occur from the closed and reclaimed mine site. Atlantic Richfield has made modifications to, and incorporated language into, the final SOW that the regulatory agencies should find acceptable.

Atlantic Richfield agrees that the SOW provides the framework for site investigation activities at the site and should be a stand-alone document. Implementation of associated site investigations will be conducted under the existing enforcement agreement with NDEP, or will be conducted under a proposed enforcement agreement. In either case, the site investigation work outlined in the SOW is anticipated by Atlantic Richfield to proceed.

It should be remembered that the SOW is intended to be a general document that outlines site-specific investigations that will achieve the stated closure objectives. Many of the specific comments provided by the regulatory agencies contain very specific references and questions that are intended to be addressed in the site conceptual model, Work Plan for site investigations, Data Summary Reports and the Final Permanent Closure Plan.

Specific Comments

1) Assessment of ecological risk is not adequately included in the final draft SOW. The assessment of ecological risks should include identification of ecological receptors and all exposure pathways. The “Response to Comments” states that Atlantic Richfield will identify “ecological receptors and exposure pathways” only. There is no proposal within the SOW to investigate any of the areas if it is determined that there is a complete exposure pathway for any ecological receptor. Potential exposure pathways would include any other ditches near the Site, in addition to the Wabuska Drain. Information should be gathered on the timing/frequency of past drain cleaning to better assess contaminant concentrations. Also, any on-site areas where ponding is observed, should be sampled and analyzed for metals, pH and TDS during precipitation events. The evaporation ponds should also be included in the routine sampling.

Response to Comment 1: Atlantic Richfield intended to define receptors and exposure pathways through the development of the site conceptual model that would satisfy any concern that the regulatory agencies may have regarding an assessment of ecological and human health risks associated with the mine site. Such language has been included in the final SOW. The Wabuska Drain will be included in any assessment of ecological risk.

Information on the timing/frequency of past drain cleaning to better assess contaminant concentrations will be addressed in the Wabuska Drain Work Plan. Sampling and analysis of ponded water will also be addressed in the appropriate Work Plan. Monitoring of water from the pumpback wells that is held in the evaporation ponds is currently conducted as part of the ongoing pumpback system monitoring.

2) Section 1.1; Please update in the text the list of short-term actions that Atlantic Richfield agrees to complete. It is difficult from this list to understand if these are the only items Atlantic Richfield has agreed to complete or just an incomplete list of items included from the Attachment to the EPA/BLM July 30, 2001 letter. For example, the groundwater investigations are the focus of the EPA/BLM list, not the hydropunch, and an air monitoring station is required, not just an evaluation of the data and the meteorological station. Please provide the schedule for initiating air monitoring. EPA will also address this by separate letter.

Response to Comment 2: The final SOW includes a list of short-term actions from the EPA/BLM July 30, 2001, letter that will be initiated during the first half of 2002. This list, presented in Sections 1.1 and 3.0 of the SOW, is based on the Atlantic Richfield letter dated February 5, 2002, to the regulatory agencies. Atlantic Richfield intends to install a meteorological station during the second quarter of 2002. Air monitoring is contemplated as part of SOW activities (Section 2.2 Fugitive Dust), and the schedule for this activity currently calls for Work Plan submittal 90 days following the finalization of the SOW.

3) Section 1.2; The closure objectives listed have not been revised to address our Comments. A major element that is missing is a risk-based approach to decision making. As stated in our Comments on the draft SOW, the closure objectives must be designed to meet the following objectives:

- a) assess human health and ecological risks associated with the Site. Determine the extent of human health and ecological risks which are found to be significant (i.e., extent of groundwater contamination, extent of surface soil contamination posing risks via direct exposure and/or wind-blown dust exposure, etc.),
- b) develop risk-based cleanup objectives for the Site,
- c) develop and evaluate cleanup alternatives to meet the risk-based cleanup objectives.

Future reuse, as well as community acceptance, must be considered in remedy selection. For example, cleanup based on a given future land use may require active remediation, in addition to monitoring and maintenance.

Response to Comment 3: The stated objectives in the SOW (that mine units following reclamation and closure will not adversely affect human health or the environment, that fugitive dust from the mine site will be contained, and that existing or potential impacts to groundwater will be managed) will be evaluated from the perspective of ecological and human health risk. Atlantic Richfield agrees that a risk-based approach is a process that should be incorporated into the site conceptual model. Atlantic Richfield intends to define receptors and exposure pathways through the development of the site conceptual model that would satisfy any concern that the regulatory agencies may have regarding a complete and thorough assessment of ecological and human health risks associated with the mine site. The Final Permanent Closure Plan will provide for an evaluation of human health and ecological risks. The final SOW reflects this intent (e.g., Sections 1.2, 1.4, 2.0 and 2.1). Future land use will also be considered and discussed in the Final Permanent Closure Plan.

4) Section 1.2; A second major element that should be included is a closure objective that requires the establishment of a productive post closure land use pursuant to applicable NDEP and BLM regulations. For ex: Restore the mining related disturbance to a beneficial post mining land use, prevent undue or unnecessary degradation of the environment, and reclaim disturbed areas such that these areas are functionally compatible with the surrounding topography.

Response to Comment 4: As stated in the response to Comment 3, future land use will be considered and discussed in the Final Permanent Closure Plan. Until site investigations have been conducted and integrated into a Final Permanent Closure Plan, it is premature to define the post-closure land use. Future land use is included in the closure objectives listed in Section 1.2.

5) Section 1.4; Workplans, Data Summary Reports and Closure Plans, first paragraph; The distribution, review and approval process will follow the process depicted in the Memorandum of Understanding (MOU), between NDEP, BLM and EPA, currently in a final draft phase. Please adjust accordingly.

Response to Comment 5: The SOW describes the general relationship between Work Plans, Data Summary Reports and Closure Plans. Although detailed descriptions of approval procedures do not belong in the SOW, Section 1.4 has been revised to acknowledge the draft MOU.

6) Section 1.4; As stated in prior Comments, any “...proposed method(s) necessary to achieve physical and chemical stability” must be screened against the following criteria: a) overall protection of human health and environment, b) compliance with ARARs, c) long-term effectiveness and permanence, d) reductions in toxicity, mobility and volume through treatment, e) short-term effectiveness, f) implementability, g) cost, and h) community acceptance. The text of the SOW and the “Response to Comments” have a premature focus on containment and capping as preferred alternatives. Risk evaluation should take place after investigations are complete and prior to closure/reclamation to choose the best cleanup alternatives for the Site. Additionally, the text should state that treatability studies will be conducted as appropriate.

Response to Comment 6: Atlantic Richfield agrees that proposed methods to achieve physical and chemical stability should be screened against appropriate criteria. The following criteria, similar to those listed above, have been incorporated into the final SOW: Economic (cost); Long-term effectiveness and performance; Cost-effective reduction of toxicity, mobility and volume of constituents of concern; Overall protection of human health and the environment; Implementability; Short term impacts; Public acceptance; State acceptance; and Risk-based evaluation.

Atlantic Richfield also agrees that an evaluation of risk should take place, as addressed in the response to Comment 3. Atlantic Richfield will remove any premature language with respect to closure alternatives. The SOW text has been modified to state that “treatability studies will...”.

7) Section 1.5, Closure and Reclamation; Text states that “it will be necessary to evaluate the potential risk to human health and the environment upon implementation of closure and reclamation activities”. What is Atlantic Richfield’s plan for completing the baseline risk assessment? Please clarify whether it would be included in the data summary reports or a separate report. Risk must be evaluated prior to decision-making. As stated in prior Comments on the draft SOW, future land use should be discussed in this section.

Response to Comment 7: As indicated in the response to Comment 3, Atlantic Richfield proposes to evaluate pathways and receptors, in conjunction with the regulatory agencies and other stakeholders, during the development of the site conceptual model. This is the first effort following approval of the SOW. Upon finalization of the conceptual site model, Atlantic Richfield will develop

Work Plans for each site issue and mine closure unit according to the schedule attached to the final draft SOW. Each Work Plan will be reviewed in the context of risk issues prior to implementation. Based on the results of the site investigations, an evaluation of human health and ecological risk will be performed and summarized in the Final Permanent Closure Plan prior to the implementation of closure and reclamation activities.

Atlantic Richfield agrees that future land use should be considered in evaluating the closure and reclamation alternatives. Future land use will be considered and discussed in the Final Permanent Closure Plan, as discussed in the response to Comment 3.

8) Section 2.0, 2nd paragraph; The following sentence must be expanded to include provision for any mitigation of risks if they are identified in the investigation; for example if the air pathway presents an unacceptable health or environmental risk, mitigation for these risks should be completed: “If these investigations identify surface materials that have the potential to degrade waters of the State, then appropriate additional site characterization and/or mitigation or closure measures will be evaluated.” The sampling objectives for each of the mine units should be based on evaluating the unit specific exposure pathways of potential concern. This Comment was not addressed in the revision. As discussed in the 2/6,7 meetings, Atlantic Richfield should focus on defining “investigation units” by potential sources (including chemicals of concern and contamination in a source area), possible exposure pathways (including migration) and possible receptors. We can then answer the questions of how will the unit or issue be studied, data gaps that might exist, and whether any further data collection is necessary.

Response to Comment 8: The final SOW (Section 2.0) has been revised to include a provision that appropriate additional site characterization, mitigation and/or closure measures will be evaluated. This provision includes air pathways as well as surface water and groundwater pathways. As stated previously, the level of detail that the regulatory agencies may be looking for in the SOW with respect to ecological and human health risk is better presented in the site conceptual model and Work Plans after the SOW has been finalized. Specific sampling objectives, which contain too much detail for the SOW, will be developed and presented in the individual Work Plans for mine closure units and for general site issues (e.g., groundwater and fugitive dust).

9) Section 2.1; Conceptual Model; A more comprehensive review of the Site must be completed to identify other potential source areas or areas of concern. The text could be clarified by stating that a review of records will be completed, including, as needed, review of aerial photos, information requests and interviews with former employees.

To help delineate the extent of investigations for the mine units the following language may be utilized: “If a mine unit causes a human health or ecological risk or has the potential to affect an off- site area (defined as an area not included in the continuous mine site boundaries as determined by legal documents), then that area shall be evaluated by the work plan(s) for the investigation of that unit.” Screening levels, such as

Region IX's Preliminary Remediation Goals, can be used initially to evaluate mine units. For example, one issue has been dust escaping from the Site and possibly creating a human health risk to an off-site population. This should be studied in the surface materials section, and any potential contamination to the population shall also be evaluated.

The text regarding the conceptual site model provides information to the reader, but also raises some conflicting issues also. Part of the paragraph on page 7 states that the conceptual model is to be physically divided by mine closure units, which can even be sub-divided into smaller units. Then, the document states that the model will evaluate migration and exposure pathways for surface water, ground water, etc. It would appear that these pathways will be found constantly in several mine closure units, and that the data will be repeated. The paragraph then discusses DQOs for Site investigations, but it is unclear if these DQOs will be developed for each separate mine unit or for each exposure pathway, or for each exposure pathway in each mine unit. Since ultimately risk will decide remediation and reclamation issues for this Site, it is appropriate to take a risk-based approach in developing the SOW, the DQOs and the conceptual site model. If each of the mine closure units is evaluated using a risk-based scenario, it may be easier to highlight the specific areas of concern (i.e., areas or pathways that show a significant risk to human health or the environment). Since a risk assessment will be necessary, and this step is part of the risk assessment, it will be easier to use this approach from the beginning.

Table 1; It is difficult to categorize, for example, the large piles of waste rock and tailings into one of the Site closure issues or mine units. Which section will include the iron bleed tailings? Also, the ditches clearly denoted on several aerial photographs and mentioned in historical articles are not contained in a mine closure unit, and may contain some of the highest metal contamination on the Site. Rather than surface material, some of this material is sediment and can be carried from one area of the Site to another, if not off-site entirely, as is a possibility for the Wabuska Drain material. Some of this material is dug from the bottom of the ditches and placed on the upper part of the drain or ditch, exposing new material and possibly contaminating the water. The fate and transport of chemicals of concern through this process is unknown.

The proposed mine closure units need be more clearly distinguished from the Site closure issue, either in a separate table or in some other manner. Please clarify the work plans that can be expected for each mine closure unit. We would prefer these work plans be combined as much as possible to help limit delays due to reviewing and commenting. What is the schedule for delivery of the Chemical Data Acquisition or Site Sampling Plan, Quality Assurance Quality Control (QA/QC) Plan and Site Health and Safety Plan? Please clearly identify these documents in the SOW and describe the process for incorporating changes or addendums specific to each work plan.

Table 1, continued; We recommend that the following language be added to this table to acknowledge the need for ecological risk assessment related to various mine units and for consistency with information provided in the table (e.g., Wabuska Drain) and text (e.g., section 2.8). For the Yerington Pit and Pit Lake under the column Rationale for Investigation, add "and evaluate ecological risk associated with migratory bird and wildlife use of the lake." For Evaporation Ponds, under the column Rationale for Investigation, add "and evaluate ecological risk associated with migratory bird and wildlife use of the ponds." For both the

Oxide Tailings Area and the Sulfide Tailings Area, under the column Rationale for Investigation, add “and evaluate ecological risk associated with migratory bird and wildlife use of water that accumulates on the tailings.”

Response to Comment 9: Many of the individual comments provided under Comment 9 request details that are more appropriately included in the individual Work Plans. Atlantic Richfield intends to conduct a complete review of past and current site conditions in developing the conceptual model and specific Work Plans. Atlantic Richfield agrees with the comment that a review of aerial photographs and obtaining anecdotal information will be useful in developing the site conceptual model, as reflected in the final SOW.

The final SOW includes the following sentence: “ If site investigations indicate that off-site areas have been affected, then the off-site area will be evaluated by the Work Plan for that unit, including an assessment of possible human health or ecological risk.” Atlantic Richfield anticipates that appropriate screening levels will be used in the site investigations. As the regulatory agencies have recognized, many of the surface-deposited mine units could present similar exposure pathways to surface water and groundwater, which will be verified during the proposed site investigations.

The identified mine units are components of the site model. In the SOW, Atlantic Richfield identified discrete surface-deposited materials based on geographic location and type (e.g., waste rock, tailings, leach pads, ponds, etc.). Based on previous comments, the final draft SOW was revised to describe the option to subdivide mine units identified in Table 1 into smaller components, as appropriate (e.g., large piles of waste rock and tailings into smaller sections based on material characteristics). At the present time, the iron bleed tailings are included in the oxide tailings mine closure unit. The final SOW will indicate that on-site ditches will be incorporated into the appropriate Work Plan.

Atlantic Richfield has revised the SOW to include two tables (instead of one) that more clearly distinguishes investigations related to mine closure units from those related to general site issues. A sampling and analysis plan will be part of each Work Plan, and will describe sampling details including the acquisition of chemical data and QA/QC protocols. A Site Health and Safety Plan will be submitted prior to the initiation of site investigation activities. The final SOW describes the process for incorporating changes or addendums specific to each Work Plan.

Atlantic Richfield has revised the final SOW to acknowledge the need for ecological risk assessments related to mine closure units and general site issues in a general way (see responses to Comments 3 and 7). Specific references to ecological risk assessments for specific mine units or site closure issues are not appropriate for the general nature of the SOW.

10) Section 2.2; Air monitoring is proposed to be conducted on a monthly basis. Is there any provision for larger storms? Also, since there is no existing meteorologic data for the Site, these references to evaluating

current data should be omitted. In the second paragraph, third line, we recommend that more than particulate matter and metals be monitored. Trace elements should also be included, as not all contaminants of concern (COCs) may be metals.

Response to Comment 10: The SOW (Section 2.2) describes monitoring of air quality at the mine site with monthly compilation of data. This level of detail has been removed from the SOW. The proposed monitoring schedule and details will be established during development of the Work Plan for Fugitive Dust, and may include provisions for monitoring large storm events. The reference to evaluating “existing meteorologic data at the site” in Section 2.2 will be changed to “existing meteorologic data in the vicinity of the site”.

11) Section 2.3; As stated in the earlier Comments, treatability tests may be appropriate and should be included in this section.

Response to Comment 11: Please see response to Comment 6.

12) Sections 2.4 and 2.5; Section 2.5 includes some of the same information as Section 2.4. Maybe these sections should be combined and include the Walker River and the Pit Lake. Stormwater quality monitoring should be included.

Response to Comment 12: Atlantic Richfield agrees that similar information may appear to be presented in Sections 2.4 and 2.5. However, Section 2.4 is focused on engineering and re-grading physical features of the mine site that require an understanding of the site water balance. Site water balance information will also be used in evaluating existing and potential effects to groundwater and surface water from the mine closure units. Atlantic Richfield has indicated that no Work Plan is anticipated for evaluating the site water balance, but this information will be presented in the Final Permanent Closure Plan.

Where appropriate, the Walker River and the pit lake will be incorporated into the site water balance, along with other recharge and discharge components. Please see Response to Comment 14, below, with regard to stormwater monitoring.

13) Section 2.8; Yerington Pit and Pit Lake; As discussed earlier, ecological risk assessment must include an assessment of ecological risk at the pit lake. Approximately 300 migratory birds of 8 species were observed at this site on January 31, 2002. Some appeared to be feeding or at least foraging (e.g., looking for food). Data collected in the past has indicated that high concentrations of selenium may be present in the water and the concentration of mercury was elevated in aquatic invertebrates. The risk assessment should include information on both drinking the water and consumption of any foods that may be present. Information is also needed on the length of time birds use the lake.

Response to Comment 13: Section 2.8 in the final draft SOW adequately addresses ecological risk for the Yerington Pit lake for the level of detail intended in the SOW. Please see the responses to Comments 3 and 7 in regard to the evaluation of ecological risk.

14) Sections 2.11 and 2.12, Oxide Tailings Area and Sulfide Tailings Area; We appreciate the language regarding risk to the environment. Sampling of water that accumulates on these tailings after precipitation events is critically needed because of possible use by migratory birds, especially during spring and fall migration. Extensive areas of accumulated shallow water were present in the area northwest of the Atlantic Richfield Company evaporation ponds, as well as a smaller area northeast of the mine office on January 31, 2002. Several water samples should be taken from various areas when water is present, as the levels of contamination may vary with location. We are especially concerned that these areas may be attractive to migrating shorebirds.

Response to Comment 14: Detailed sampling plans will be included in the Work Plans for these mine units. These Work Plans will follow unit-specific DQOs. Please refer to the responses to Comments 3 and 7 in regard to evaluating ecological risk.

15) Section 2.13, Arimetco Leach Pads and Process Components; The discussion of the net evaporation character and the principal closure goal for the leach pad is inappropriate for this document since various closure options should be outlined in later documents. Atlantic Richfield and its contractors should not be predisposed to one closure goal prior to collecting and analyzing data during mine unit characterization.

Response to Comment 15: The SOW has been modified to reflect this comment.

16) Section 2.14, Evaporation Ponds; This section indicates that the only characterization to be done at the evaporation ponds is to collect and analyze samples of solids accumulated in the bottom of the pond. However, this does not address possible soil zone and groundwater contamination beneath the ponds. While the ponds were in use, there was most likely plenty of hydraulic head on pond bottoms to drive fluid seepage through unlined ponds or compromised liners. Drilling or hydropunch activities should be considered in the SOW and in the mine unit characterization phase. Also, this section needs to be expanded to deal with ecological risk, especially with regard to migratory bird use. The water in these ponds (each separately) needs to be sampled periodically (e.g., quarterly) for metals and trace elements.

Response to Comment 16: The text has been modified to reflect that specific monitoring activities for the evaporation ponds will be developed to achieve the DQOs developed in the Work Plan for this mine closure unit. These activities will include the concepts of ecological risk developed in conjunction with the site conceptual model. Please refer to the response to Comment 3 regarding ecological risk.

17) Section 2.15, Wabuska Drain; From some of the reports it is apparent that the drain has been relocated several times. Provision should be made to evaluate these other areas. Sediment sampling is needed in addition to the water sampling that is already mentioned. Please add a statement regarding an evaluation of ecological risk, which was mentioned in Table 1, but is lacking here. We also recommend that sampling of biota for metals and trace elements be included in order to adequately evaluate ecological risk. Data on agricultural inputs of metals and trace elements is also needed to determine the proportion of contaminants from this source, in relation to that from the mine.

Response to Comment 17: This comment asks for specifics not intended for the SOW. Site investigation activities for the Wabuska Drain will be based on DQOs that will be included in the Work Plan for this site closure issue. Please refer to the response to Comment 3 regarding ecological risk.

18) Section 3.0; The footnote at the bottom Attachment 1, “Yerington Mine Site: Preliminary Work Plan Development Schedule” indicates that Atlantic Richfield Company will not proceed with the activities described in the SOW until the SOW is approved and is incorporated into a regulatory agreement. Please clarify those activities, if any, that Atlantic Richfield Company is willing to proceed with implementing without a regulatory agreement.

Response to Comment 18): Atlantic Richfield is prepared to proceed with SOW activities under the existing order from the State of Nevada. The final SOW reflects this, and acknowledges that other regulatory mechanisms may be evaluated.

Comments on the Conceptual Model Figure (draft figure shown at February 6, 7 meetings)

1) Add the potential receptors (ecological and human health) to the figure. For example, at a minimum, birds should be added to the Pit Lake and the evaporation ponds. Many different sightings of birds have occurred in these areas. There are also potential receptors at the Wabuska Drain.

Response to Conceptual Model Comment 1: The figure exhibited at the meetings is not part of the SOW, and it should be considered an early attempt at integrating mine closure units with general site closure issues. Atlantic Richfield may add potential receptors to the existing figure or create an additional figure or schematic that includes potential receptors as part of the site conceptual model development process.

2) Fugitive dust may be emanating from more areas than just tailings piles, for example from the iron bleed tailings.

Response to Conceptual Model Comment 2: Atlantic Richfield attempted to depict fugitive dust from all tailings materials in the figure in a general way that would include the iron bleed tailings.

3) Add more features to the figure. For example, the following should be added:

- Walker River due to the possible connection to the Pit Lake and Site groundwater
- Iron bleed tailings
- Megapond
- Wabuska Drain should be extended off-site

Response to Conceptual Model Comment 3: Atlantic Richfield will include the Walker River and off-site extension of the Wabuska Drain in the existing figure or create an additional figure or schematic that includes these features. The iron bleed tailings and megapond are schematically incorporated into the generalized mine units (tailings and ponds) shown in the figure.

4) We recommend a table to accompany the figure with the following columns: a) source description, b) human or ecological exposure pathway and c) potential receptors.

Response to Conceptual Model Comment 4: Atlantic Richfield can create a table or other schematic that includes source description, human or ecological exposure pathway and potential receptors.

5) It is recommended that an amended version of the Conceptual Model be submitted to the YTWG members for review prior to the scheduled March 19, 2002 meeting, if possible.

Response to Conceptual Model Comment 5: This figure is not part of the SOW. However, Atlantic Richfield is agreeable to sharing this preliminary figure with the YTWG but prefers to include its use in developing the conceptual site model after the SOW has been approved, as it is a work in progress (i.e., clarifying text and tables are still under development). Based on the previous four comments, some modifications to the figure and/or additional schematics may be useful in developing the site model.